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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/591,075	06/09/2000	Mark F. Schulz	1105.11011101	3015

32692 7590 10/27/2003

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EXAMINER

SHEWAREGED, BETELHEM

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 10/27/2003

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/591,075

Applicant(s)

SCHULZ ET AL.

Examiner

Betelhem Shewareged

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-23, 25, 26 and 28-49 is/are pending in the application.
- 4a) Of the above claim(s) 7, 9, 11-14, 19-21, 25, 35, 36 and 44-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 15-18, 22, 23, 26, 28-34 and 37-41 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 8, 10, 42 and 43 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's response filed on 07/21/2003 has been fully considered. All previous rejections have been withdrawn in view of applicant's amendments and comments.
2. Claims 1, 8 and 10 are amended, claims 6, 24 and 27 are cancelled, and claims 1-5, 7-23, 25, 26 and 28-49 are pending. (NOTE: Claims 7, 9, 11-14, 19-21, 25, 35, 36 and 44-49 are non-elected).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 15-18, 22, 23, 26, 28-34, 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashida et al. (US 6,357,871 B1).

Ashida discloses an ink jet recording medium comprising a support and a layer comprising particles of thermoplastic organic polymer on the support (abstract). The support can be non-coated paper (support (a) in col. 9) or transparent synthetic resin film having a pigment or a blowing agent (support (e) in col. 9), wherein these support have porous structure. The layer comprising particles of thermoplastic organic polymer further comprises inorganic particles such as silica and aluminum silicate in an amount of at most 30 wt%, based on particles of thermoplastic organic polymer (col. 6, line 54). The average particle size of the thermoplastic organic polymer particles is 1-20 um (col. 4, line 31). The layer comprising particles of thermoplastic organic polymer has a

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coating weight of 1-50g/m² (col. 4, line 53). The layer comprising particles of thermoplastic organic polymer also contains a polyvinyl alcohol in an amount of 1-30 wt% (col. 5, line 12).

Ashida does not disclose the claimed pore size of the substrate. The experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. One of ordinary skill in the art would have been motivated to adjust the pore size of the substrate in order to optimize the ink-absorbing properties of the layer. A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 205 USPQ 215.

Ashida does not disclose the use of organic particles comprising crosslinked homopolymers and copolymers of N-vinyl lactams. The Luvicross® Product Bulletin teaches that its Luvicross VI or VI-M particles comprise copolymers of polyvinyl pyrrolidone and vinylimidazole, and teach that they are used advantageously both as ink fixing/solvent fixing pigments and as components of coating formulations for ink jet papers and films. See Product Bulletin, pages 26 and 29. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the Luvicross® VI or VI-M organic particles as the organic pigment in the layer comprising particles of thermoplastic organic polymer of Ashida, motivated by the desire of providing a component that would function to fix ink jet ink printed thereon, as taught by the Luvicross® Product Bulletin on page 29.

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With respect to claims 28-31, since the Luvicross® particles are identical to the particles to the particles used by applicants, it is inherent the particles possess the claimed water absorbing capacity.

Allowable Subject Matter

5. Claims 4, 5, 8, 10, 42 and 43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betelhem Shewareged whose telephone number is 703-305-0389. The examiner can normally be reached on Mon.-Thur. 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H Kelly can be reached on 703-308-0449. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Betelhem Shewareged
October 19, 2003.